Disaster Information Needs: A Medical Librarian Perspective

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Introduction

What should librarians know to provide the best service to emergency and disaster responders?

- About the user: Disaster responders
- The operational environment
- Delivering information
- Resources used
- Other challenges
- Resource design recommendations

"I don't always have the cognitive process it takes to tease out the resources I have access to, or you all have access to, so I am relying on you all resource librarians to help me find the information I need for background information and for information support."

Methodology

- Interviewed 12 public health & military personnel
- Agencies represented by interviewees:

1 2 3 4

- Interviewees had world-wide responder experience:

1. Faculty, Uniformed Services University of the Health Sciences (USUHS)
2. Center for Disaster & Humanitarian Medicine (CDHAM), USUHS
3. HHS, Office of the Secretary, Assistant Secretary for Preparedness & Response (ASPR)
4. HHS, Office of the Secretary, Office of the Surgeon General, Office of Civilian Volunteer Medical Reserve Corps (OCVMRC)

Methodology

Interviewees were:

- public health officials,
- nurses,
- physicians,
- pharmacist,
- faculty, &
- government leaders

Methodology

- Interviews
- 9-question survey used to explore:
  - Information used during response
  - Information needed/desired
  - Formats & delivery options
  - Information sources need in an ideal resource
- Coded transcribed interviews
- Identified themes
- Categorized with a card sort

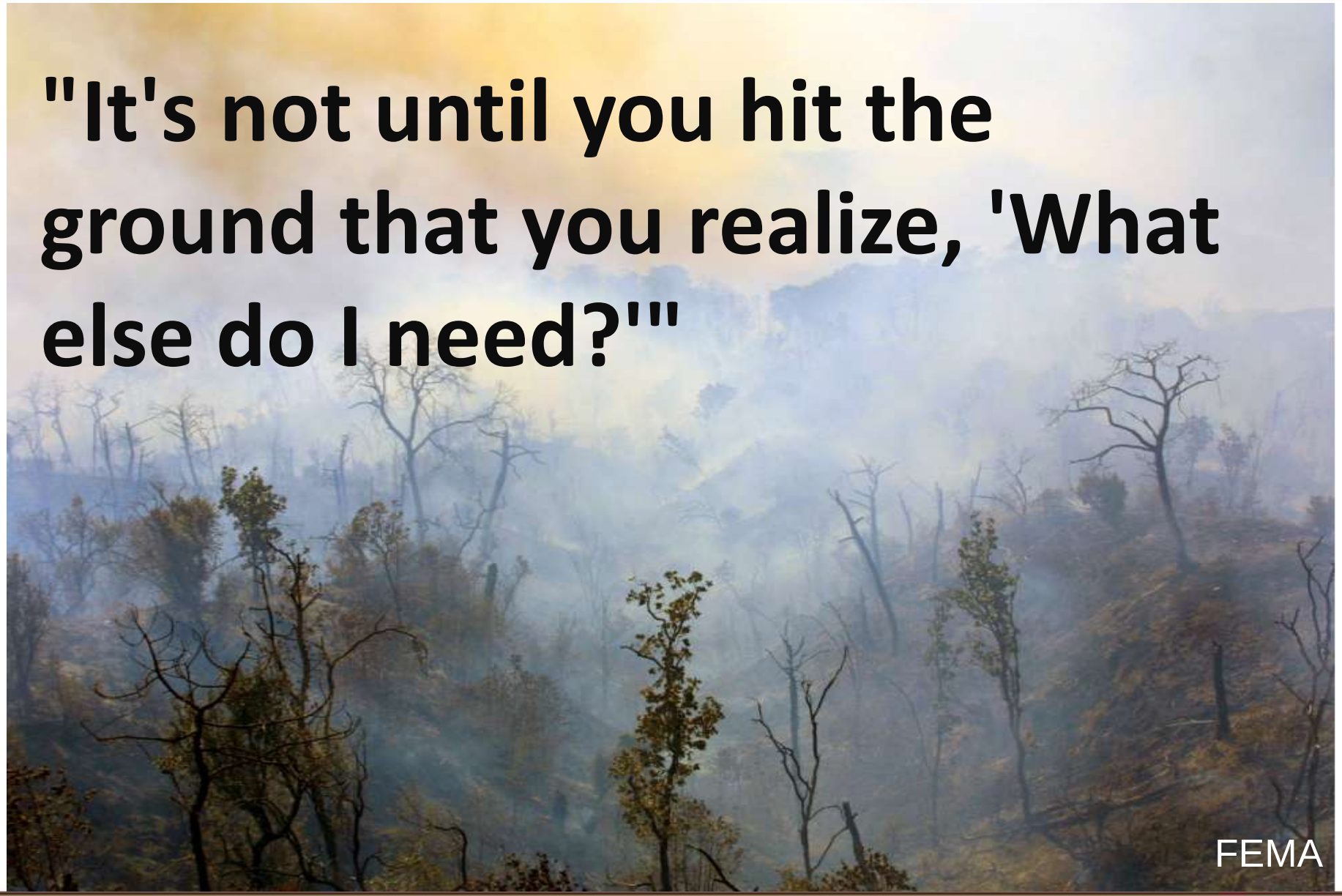
Methodology

Limitations to our study:

- Federal uniformed responders only (DoD & DHHS)
- Recall bias of interviewees
- Small # of interviewees

We also did not include responders to the January 2010 Haitian earthquake

Results


"It's not until you hit the ground that you realize, 'What else do I need?'"
FEMA

Results: The users

- Information needs differ during different stages:
  - Pre-deployment
  - Deployment
  - Planning
- “Normal” duties & experience may not match crisis assignments
- Personal & professional networks are essential

Results: Environment

"during a disaster and being in the middle of it [...] being able to lay your hands on information instantaneously is usually what it is about."

PhotoShare

Flooding

Results: Environment

Librarians should always consider their disaster-responder patrons':

- Physical Environment
  - Type of disaster/emergency
  - Location of disaster/emergency
- Socio-Cultural Environment
  - Type of response: International, federal, state, UN
  - Players on the ground: NGOs, military, US, or other foreign governments

It's complicated!

Results: Environment

Challenges from their physical environment:

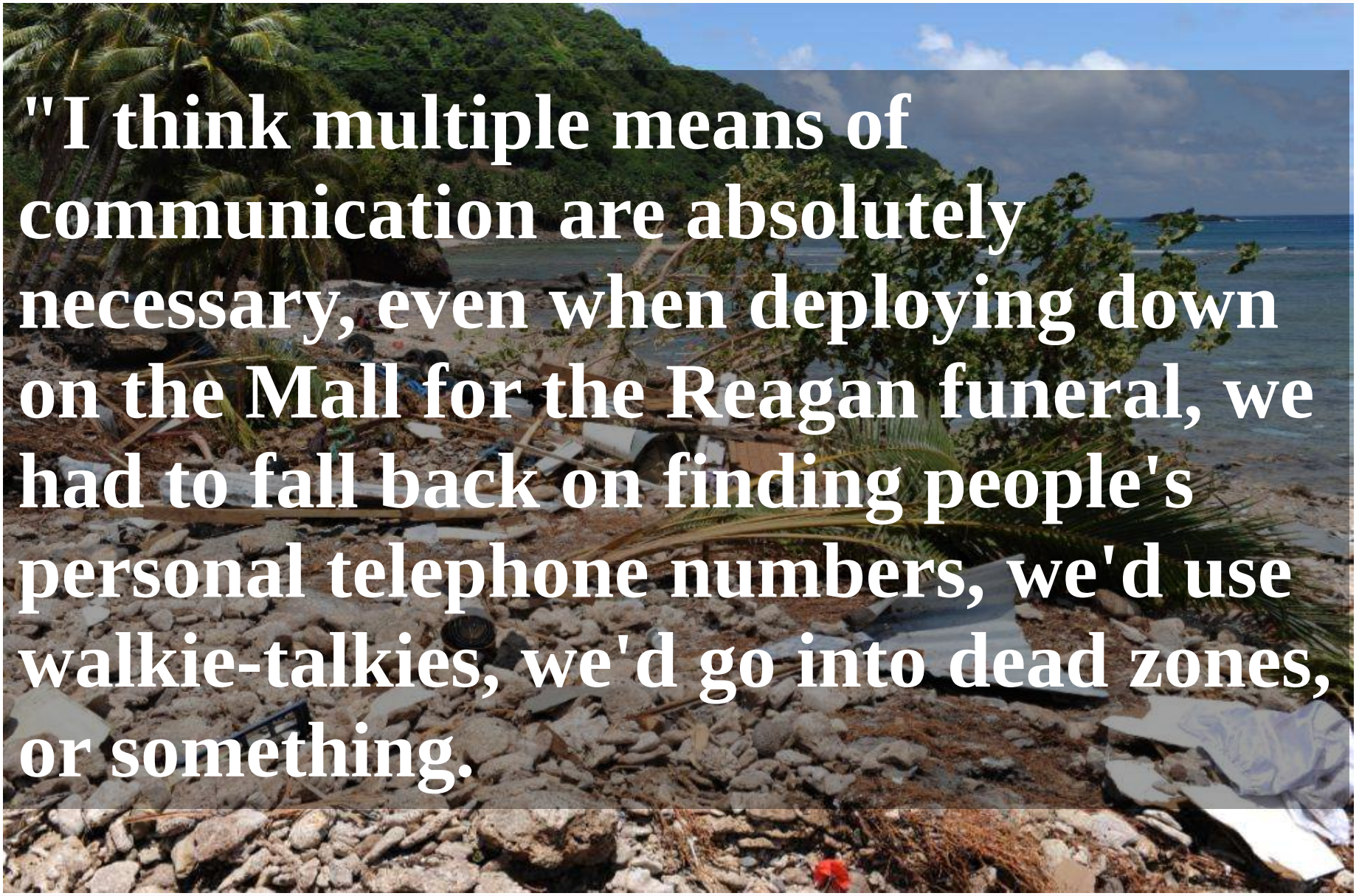
- Electricity to power/re-charge devices
- Unreliable & slow Internet service
- Bandwidth restrictions
- Not enough laptops for all
- Email account size limits
- Firewalls
- Insufficient time to research - ready answers are key
- Small screens (PDAs)
- Printing not always possible
- Weather

Results: Environment

The socio-cultural environment:

- Collaboration among all responding partners is key to prevent duplication, sharing of resources, ensuring coverage of affected populations
- Respect for capability and decision-making role of “host” government
- All those responding also need food, clean water, shelter, & security
- Different missions, goals & objectives of responding partners
- Military/Government responders may be limited by classified/non-classified sharing restrictions

Results: Delivering information



Leone, American Samoa – Tsunami (2009)

Results: Delivering information

Formats:

- Electronic is favored for:
  - Portability,
  - Compatibility with multiple devices
  - Transferability
- BUT, print is still important!

http://nnlm.gov/webreports/ep/uploads/2009/07/one-shelf-0709.jpg

Devices:

- Many types of devices are used

Redundant delivery methods are important!

Results: Delivering information

Types of devices used:

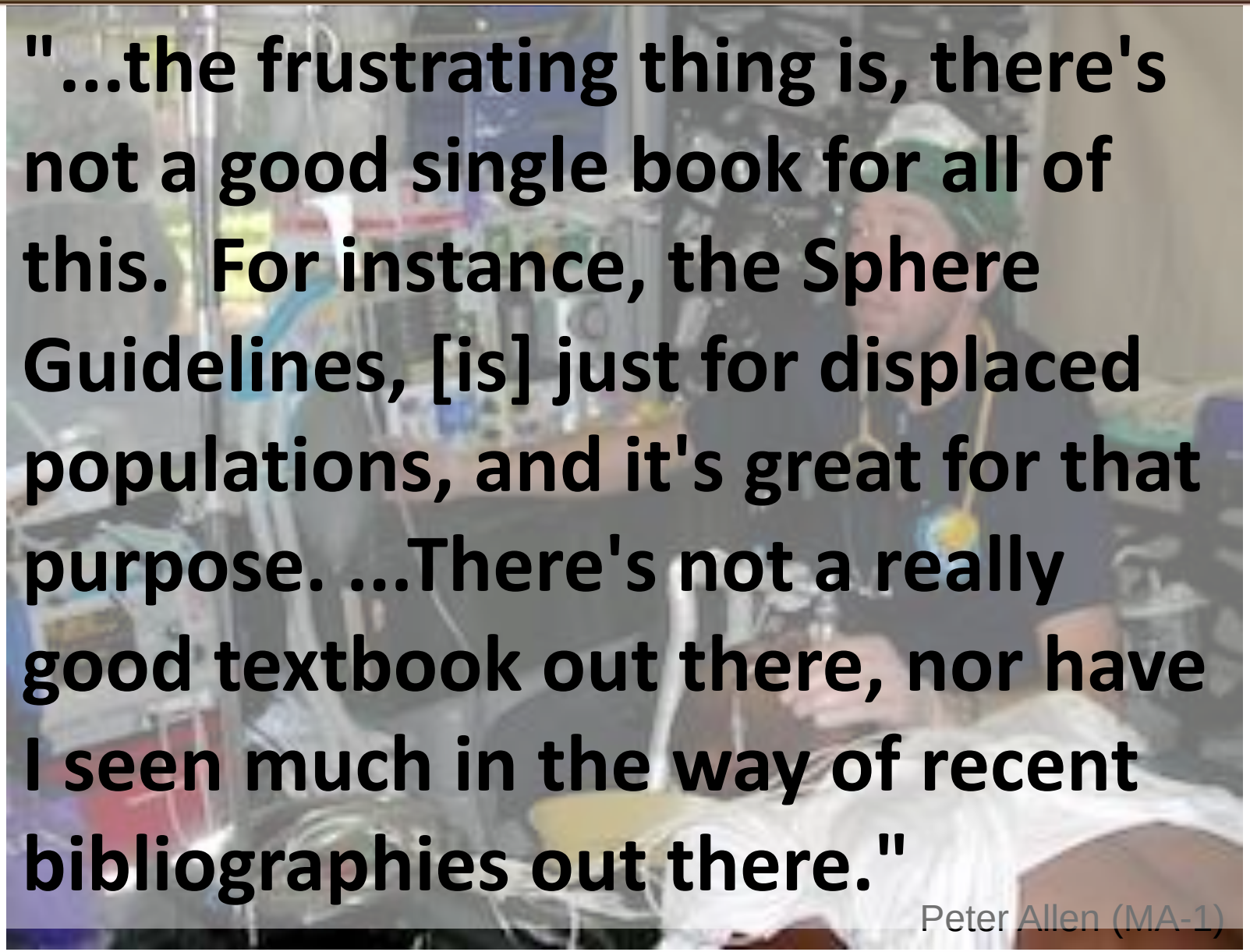
- PDAs/SmartPhones
- CD-Roms
- Laptops
- Cell Phones
- Fax
- Cameras
- Satellite phones
- Thumb drives






Important: Internet is accessed via these devices!

Results: Resources required



"...the frustrating thing is, there's not a good single book for all of this. For instance, the Sphere Guidelines, [is] just for displaced populations, and it's great for that purpose. ...There's not a really good textbook out there, nor have I seen much in the way of recent bibliographies out there."

Peter Allen (MA-1)

Results: Resources required

Information required by responders is scattered:

- **Across authoring groups & organizations**
  - Government
  - NGOs
  - International agencies (e.g. UN, WHO, PAHO)
  - Think tanks
  - Professional associations
  - Academic institutions
- **Across delivery formats**
  - PDF vs. print vs. html
- **Across types of resources**
  - Journals
  - Books
  - Reports, white papers, manuals, & technical reports

Results: Resources required

Types of grey literature needed:

- Policy & legislative information
- Local, State, Federal disaster plans & policies
- Disaster/emergency specific information
- Surveys & assessment tools
- Cultural, socioeconomic, geographical, endemic health information on affected area
- Clinical information
- Reporting forms
- Patient education materials

Results: Resources required

Examples of clinical care resources:

- Clinical care guidelines & standards
- Drug information (substitutions, interactions)
- Patient education materials
- Quick references (handbooks, downloadable software to PDA/smartphone)

Specific resources mentioned in interviews

"having these tools available in one place as opposed to having to recreate them or find them . . .“

(AP Photo/ U.S. Army)

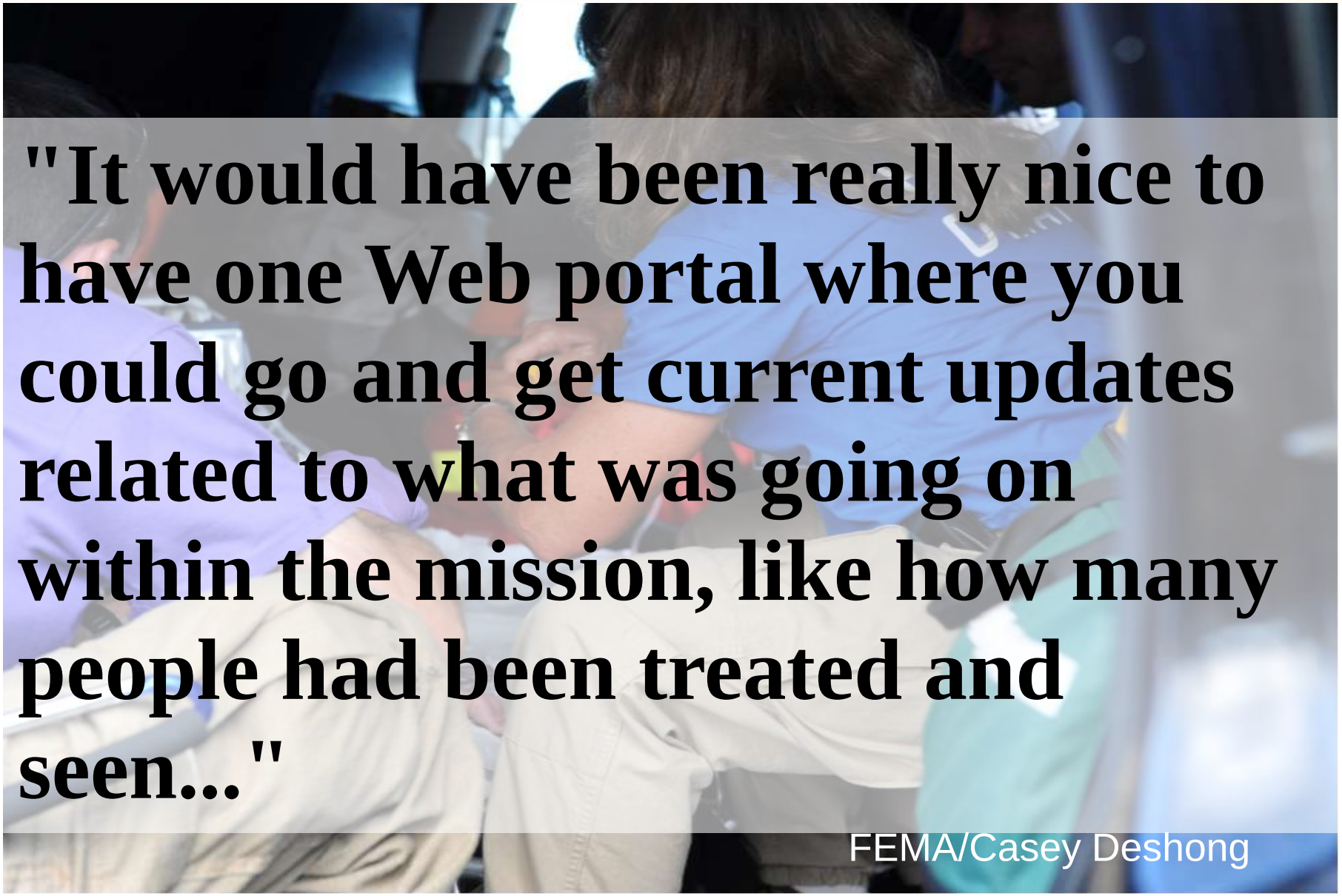
Combat Support Hospital, Baghdad, Iraq (2003)

Recommendations

Some recommendations for delivery of info to responders:

- **Centralized access**: provide one-stop searching
  - Easy to navigate
  - Searchable: users are "Googlers"
  - Quick & easy to add information
  - Robust tagging
- **Redundancy**
- **Pre-loaded devices**
- **Be prepared to "push" info to users**

Conclusions



"It would have been really nice to have one Web portal where you could go and get current updates related to what was going on within the mission, like how many people had been treated and seen..."

FEMA/Casey Deshong

Conclusion: Summary

Information needs depend upon:

- Deployment role
- Type of information needed
- When its needed
- Nature of disaster
- Knowledge of pre-existing resource
- Technology available
- Other physical constraints (e.g., electricity)

Unfortunately, when it comes to accessing information during a disaster, much depends on the **nature** of the disaster & **who** is responding.

There is no one-size fits all solution!

Conclusions

Future research projects:

- Questionnaire of USPHS personnel

Additional questions:

- Will innovations in mobile devices eliminate communication limitations? Assist with accessing information?

More information:

- NLM Disaster Information Management Resource Center (DIMRC)